

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/055391 A1

(51) International Patent Classification⁷: **H02J 7/00, 7/14** (74) Agent: DR LUDWIG BRANN PATENTBYRÅ AB; P.O. Box 17192, S-104 62 Stockholm (SE).

(21) International Application Number:

PCT/SE2004/001797

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 3 December 2004 (03.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0303246-3 3 December 2003 (03.12.2003) SE

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,

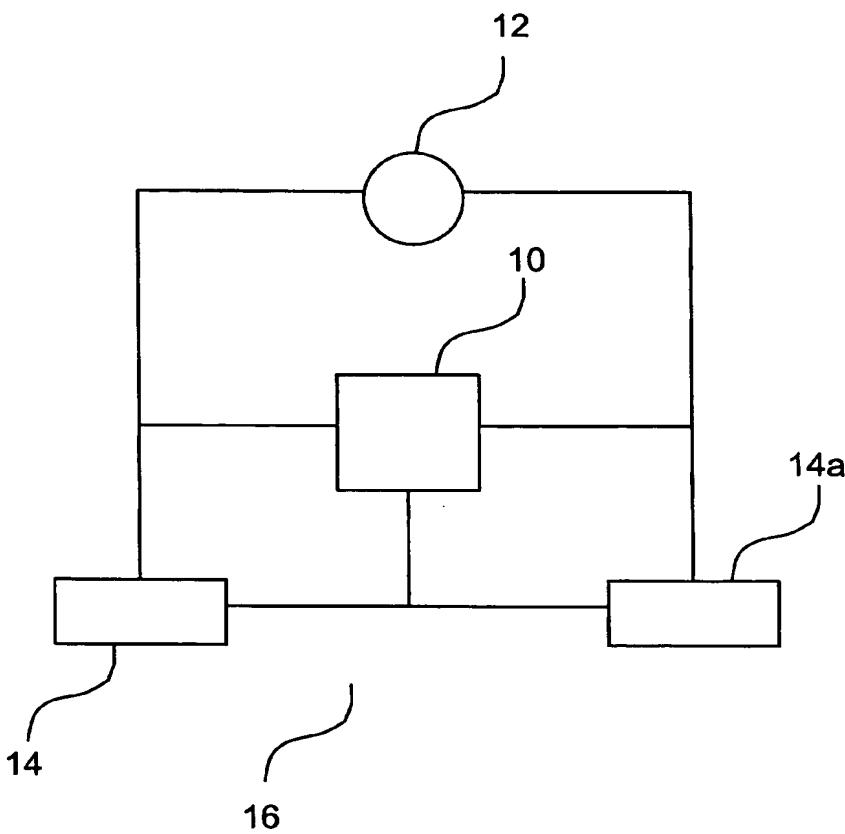
(71) Applicant (for all designated States except US): CREATOR TEKNISK UTVECKLING AB [SE/SE]; Rostugnsvägen 3, S-776 70 Vikmanshyttan (SE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): MALEUS, Börje [SE/SE]; Tennringen 22, S-176 74 Järfälla (SE).

[Continued on next page]

(54) Title: METHOD AND DEVICE FOR MANAGING BATTERIES OF A BATTERY SYSTEM



(57) Abstract: Method for managing a battery system including a number of serially coupled batteries in a flexible, reliable, and cost effective way and that can be used in a wide variety of applications, such as tools, for example, hand tools, cars, boats, back-up systems, buses, trucks, golf carts, wheel chairs, electric cars and fork-lift trucks. The method includes the steps of detecting the battery voltage over each individual battery of the battery system; and utilizing a voltage imbalance between different batteries of the system during operation of the battery system. Furthermore, the method controls the voltage distribution of the batteries to create a voltage imbalance between different batteries of the battery system.



SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.